

**Claims:**

What is claimed is:

Sub A1  
1. A method of encoding information within non-volatile memory of a smart card comprising the steps of:

providing a directory file having a start address and an end address within non-volatile storage of a smart card;

providing a data object for storage within the smart card;

storing the data object in at least a last available memory location within the directory file, the last available memory location nearer a start address of the directory file than an earlier stored data object; and

storing pointer data in at least a first available memory location most proximate the start address and between the start address and the end address, the pointer data indicative of a data object location.

Sub A2  
2. A method according to claim 1, wherein data stored within the smart card according to the preceding steps is retrievable in accordance with the PKCS15 standard.

3. A method according to claim 2, wherein application of the method results in a continuous block of available memory between the last stored pointer data and the data object location indicated by the last stored pointer data.

4. A method according to claim 3, wherein the pointer data includes an address determined by subtracting the data object size from the last available memory location address.

5. A method according to claim 4, wherein the last available memory location address is determined as the address within the last pointer data minus one address location.

6. A method according to claim 1, wherein the memory start address is lower than the memory end address.

7. A method according to claim 1, wherein the memory start address is higher than the memory end address and wherein a forward direction in memory is from higher address values toward lower address values.

8. A method of encoding information within non-volatile memory of a smart card comprising the steps of:

providing a directory file having a start address and an end address within non-volatile storage of a smart card;

providing a data object for storage within the smart card;

storing the data object in at least an available memory location proximate the last available memory location within the directory file, the last available memory location nearer a start address of the directory file than an earlier stored data object; and

storing pointer data in at least an available memory location proximate the start address and between the start address and the end address, the pointer data indicative of a data object location.

9. A method according to claim 8, wherein data stored within the smart card according to the preceding steps is retrievable in accordance with the PKCS15 standard.

10. A method according to claim 9, wherein application of the method results in a continuous block of available memory between the last stored pointer data and the data object location indicated by the last stored pointer data.

11. A method according to claim 10, wherein the pointer data includes an address determined by subtracting the data object size from the last available memory location address.

12. A method according to claim 11, wherein the last available memory location address is determined as the address within the last pointer data minus one address location.

13. A method according to claim 8, wherein the memory start address is lower than the memory end address.

14. A method according to claim 8, wherein the memory start address is higher than the memory end address and wherein a forward direction in memory is from higher address values toward lower address values.

15. A smart card comprising:

a directory file having a start address and an end address within non-volatile storage of a smart card;

a data object stored within the directory file and between the start address and the end address;

pointer data associated with the data object stored within the directory file and between the start address and the end address; and,

a continuous block of available memory between the last stored pointer data and the data object location indicated by the last stored pointer data, the continuous block of available memory for storing therein of pointer data and data objects.

16. A smart card according to claim 15, wherein:

the data object is stored in at least a last available memory location within the directory file; and

the associated data pointer is stored in at least a first available memory location most proximate the start address and between the start address and the end address.

17. A smart card according to claim 15, wherein:

a plurality of data objects are stored in a contiguous block of memory including at least a last available memory location within the directory file; and

a plurality of associated data pointers are stored in a contiguous block of memory including at least a first available memory location most proximate the start address and between the start address and the end address.

18. A smart card according to claim 15, wherein:

a plurality of data objects are stored in a contiguous block of memory including a memory location near the last available memory location within the directory file; and

a plurality of associated data pointers are stored in a contiguous block of memory including a memory location near at least a first available memory location most proximate the start address and between the start address and the end address.

19. A smart card according to claim 15 wherein the smart card is PKCS15 backwards compatible for reading data therefrom.

*Concl'd  
B1*

RECEIVED  
U.S. PATENT AND TRADEMARK OFFICE